

# FLUID CONTROL STRUCTURES IN MICROFLUIDIC DEVICES

## **Abstract of the Disclosure**

5           Methods and apparatus for implementing microfluidic analysis devices are  
provided. A monolithic elastomer membrane associated with an integrated pneumatic  
manifold allows the placement and actuation of a variety of fluid control structures,  
such as structures for pumping, isolating, mixing, routing, merging, splitting,  
preparing, and storing volumes of fluid. The fluid control structures can be used to  
10 implement a variety of sample introduction, preparation, processing, and storage  
techniques.